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## US Patents: Subliminal Suggestion & Mind Control

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68 US Patent Abstracts:

**USP # 6,506,148 (January 14, 2003): Nervous System Manipulation by EM Fields from Monitors**

**Loos, Hendricus**

**Abstract:** Physiological effects have been observed in a human subject in response to stimulation of the skin with weak electromagnetic fields that are pulsed with certain frequencies near 1/2 Hz or 2.4 Hz, such as to excite a sensory resonance. Many computer monitors and TV tubes, when displaying pulsed images, emit pulsed electromagnetic fields of sufficient amplitudes to cause such excitation. It is therefore possible to manipulate the nervous system of a subject by pulsing images displayed on a nearby computer monitor or TV set. For the latter, the image pulsing may be imbedded in the program material, or it may be overlaid by modulating a video stream, either as an RF signal or as a video signal. The image displayed on a computer monitor may be pulsed effectively by a simple computer program. For certain monitors, pulsed electromagnetic fields capable of exciting sensory resonances in nearby subjects may be generated even as the displayed images are pulsed with subliminal intensity.

**USP # 6,167,304 (December 26, 2000): Pulse Variability in Electric Field Manipulation of Nervous Systems**

**Loos, Hendricus**

**Abstract ~** Apparatus and method for manipulating the nervous system of a subject by applying to the skin a pulsing external electric field which, although too weak to cause classical nerve stimulation, modulates the normal spontaneous spiking patterns of certain kinds of afferent nerves. For certain pulse frequencies the electric field stimulation can excite in the nervous system resonances with observable physiological consequences. Pulse variability is introduced for the purpose of thwarting habituation of the nervous system to the repetitive stimulation, or to alleviate the need for precise tuning to a resonance frequency, or to control pathological oscillatory neural activities such as tremors or seizures. Pulse generators with stochastic and deterministic pulse variability are disclosed, and the output of an effective generator of the latter type is characterized.

**USP # 6,135,944 (October 24, 2000): Method of Inducing Harmonious States of Being**

**Bowman, Gerard D., et al.**

**Abstract:** A method of inducing harmonious states of being using vibrational stimuli, preferably sound, comprised of a multitude of frequencies expressing a specific pattern of relationship. Two base signals are modulated by a set of ratios to generate a plurality of harmonics. The harmonics are combined to form a "fractal" arrangement.

**USP # 6,091,994 (July 18, 2000 ): Pulsative Manipulation of Nervous Systems****Loos, Hendricus**

**Abstract ~** Method and apparatus for manipulating the nervous system by imparting subliminal pulsative cooling to the subject's skin at a frequency that is suitable for the excitation of a sensory resonance. At present, two major sensory resonances are known, with frequencies near 1/2 Hz and 2.4 Hz. The 1/2 Hz sensory resonance causes relaxation, sleepiness, ptosis of the eyelids, a tonic smile, a "knot" in the stomach, or sexual excitement, depending on the precise frequency used. The 2.4 Hz resonance causes the slowing of certain cortical activities, and is characterized by a large increase of the time needed to silently count backward from 100 to 60, with the eyes closed. The invention can be used by the general public for inducing relaxation, sleep, or sexual excitement, and clinically for the control and perhaps a treatment of tremors, seizures, and autonomic system disorders such as panic attacks. Embodiments shown are a pulsed fan to impart subliminal cooling pulses to the subject's skin, and a silent device which induces periodically varying flow past the subject's skin, the flow being induced by pulsative rising warm air plumes that are caused by a thin resistive wire which is periodically heated by electric current pulses.

**USP # 6,081,744 (June 27, 2000): Electric Fringe Field Generator for Manipulating Nervous Systems****Loos, Hendricus**

**Abstract ~** Apparatus and method for manipulating the nervous system of a subject through afferent nerves, modulated by externally applied weak fluctuating electric fields, tuned to certain frequencies such as to excite a resonance in neural circuits. Depending on the frequency chosen, excitation of such resonances causes in a human subject relaxation, sleepiness, sexual excitement, or the slowing of certain cortical processes. The electric field used for stimulation of the subject is induced by a pair of field electrodes charged to opposite polarity and placed such that the subject is entirely outside the space between the field electrodes. Such configuration allows for very compact devices where the field electrodes and a battery-powered voltage generator are contained in a small casing, such as a powder box. The stimulation by the weak external electric field relies on frequency modulation of spontaneous spiking patterns of afferent nerves. The method and apparatus can be used by the general public as an aid to relaxation, sleep, or arousal, and clinically for the control and perhaps the treatment of tremors and seizures, and disorders of the autonomic nervous system, such as panic attacks.

**USP # 6,017,302 (January 25, 2000): Subliminal Acoustic Manipulation of Nervous Systems****Loos, Hendricus**

**Abstract** ~ In human subjects, sensory resonances can be excited by subliminal atmospheric acoustic pulses that are tuned to the resonance frequency. The 1/2 Hz sensory resonance affects the autonomic nervous system and may cause relaxation, drowsiness, or sexual excitement, depending on the precise acoustic frequency near 1/2 Hz used. The effects of the 2.5 Hz resonance include slowing of certain cortical processes, sleepiness, and disorientation. For these effects to occur, the acoustic intensity must lie in a certain deeply subliminal range. Suitable apparatus consists of a portable battery-powered source of weak subaudio acoustic radiation. The method and apparatus can be used by the general public as an aid to relaxation, sleep, or sexual arousal, and clinically for the control and perhaps treatment of insomnia, tremors, epileptic seizures, and anxiety disorders. There is further application as a nonlethal weapon that can be used in law enforcement standoff situations, for causing drowsiness and disorientation in targeted subjects. It is then preferable to use venting acoustic monopoles in the form of a device that inhales and exhales air with subaudio frequency.

**USP # 6,011,991 (January 4, 2000): Communication System & Method Including Brain Wave Analysis...****Mardirossian, Aris**

**Abstract:** A system and method for enabling human beings to communicate by way of their monitored brain activity. The brain activity of an individual is monitored and transmitted to a remote location (e.g. by satellite). At the remote location, the monitored brain activity is compared with pre-recorded normalized brain activity curves, waveforms, or patterns to determine if a match or substantial match is found. If such a match is found, then the computer at the remote location determines that the individual was attempting to communicate the word, phrase, or thought corresponding to the matched stored normalized signal.

**USP # 5,935,054 (August 10, 1999): Magnetic Excitation of Sensory Resonances****Loos, H.**

**Abstract:** The invention pertains to influencing the nervous system of a subject by a weak externally applied magnetic field with a frequency near 1/2 Hz. In a range of amplitudes, such fields can excite the 1/2 sensory resonance, which is the physiological effect involved in "rocking the baby".

**USP # 5,784,124 (July 21, 1998): Supraliminal Method of Education...****D'Alitalia, Joseph A., et al.**

**Abstract:** A method of behavior modification involves having a patient view supraliminal video messages superimposed upon an underlying video presentation. The video messages incorporate messages wherein at least

some of the messages link a desired modified behavior to positive feelings of the patient. A supraliminal message generator and superimposer iteratively selects individual messages for display from the sequence of messages, decompressing the messages as required, and places the selected messages in a buffer memory of a video generation device. A processor of the supraliminal message generator and superimposer then fades the selected message from an invisible level to a visible level on the video display, and then fades the selected message from the visible level back to the invisible level.

**USP # 5,644,363 (July 1, 1997): Apparatus for Superimposing Visual Subliminal Instructions on a Video Signal**

**Mead, Talbert**

**Abstract:** A subliminal video instructional device comprises circuitry for receiving an underlying video signal and presenting this signal to horizontal and vertical synchronization detection circuits, circuitry for generating a subliminal video message synchronized to the underlying video signal, and circuitry for adding the subliminal video message to the underlying video signal to create a combination video signal.

**USP # 5,586,967 (December 24, 1996): Method & Recording for Producing Sounds and Messages to Achieve Alpha & Theta Brainwave States...**

**Davis, Mark E.**

**Abstract:** A method and recording for the use in achieving alpha and theta brainwave states and effecting positive emotional states in humans, is provided which includes a medium having a musical composition thereon with an initial tempo decreasing to a final tempo and verbal phrases recorded in synchrony with the decreasing tempo.

**USP # 5,562,597 (October 8, 1996): Method & Apparatus for Reducing Physiological Stress**

**Van Dick, Robert C.**

**Abstract:** Physiological stress in a human subject is treated by generating a weak electromagnetic field about a quartz crystal. The crystal is stimulated by applying electrical pulses of pulse widths between 0.1 and 50 microseconds each at a pulse repetition rate of between 0.5K and 10K pulses per second to a conductor positioned adjacent to the quartz crystal thereby generating a weak electromagnetic field. A subject is positioned within the weak electromagnetic field for a period of time sufficient to reduce stress.

**USP # 5,539,705 (July 23, 1996): Ultrasonic Speech Translator and Communication System**

**M. A. Akerman, M., et al.**

**Abstract:** A wireless communication system, undetectable by radio-frequency methods, for converting audio signals, including human voice, to electronic signals in the ultrasonic frequency range, transmitting the

ultrasonic signal by way of acoustic pressure waves across a carrier medium, including gases, liquids and solids, and reconvertng the ultrasonic acoustic pressure waves back to the original audio signal. This invention was made with government support under Contract DE-ACO5-84OR21400, awarded by the US Department of Energy to Martin Marietta Energy Systems, Inc.

**USP # 5,507,291 (April 16, 1996): Method & Apparatus for Remotely Determining Information as to Person's Emotional State ~ Stirbl, et al.**

**Abstract:** In a method for remotely determining information relating to a person's emotional state, an waveform energy having a predetermined frequency and a predetermined intensity is generated and wirelessly transmitted towards a remotely located subject. Waveform energy emitted from the subject is detected and automatically analyzed to derive information relating to the individual's emotional state. Physiological or physical parameters of blood pressure, pulse rate, pupil size, respiration rate and perspiration level are measured and compared with reference values to provide information utilizable in evaluating interviewee's responses or possibly criminal intent in security sensitive areas.

**USP # 5,522,386 (June 4, 1996): Apparatus for Determination of the Condition of the Vegetative Part of the Nervous System Lerner, Eduard**

**Abstract:** Apparatus for use in the determination of the condition of the vegetative part of the nervous system and/or of sensory functions of an organism, i.e. a human being or animal. The apparatus comprises devices for generating and supplying to said organism at least one sensory stimulus chosen from a group of sensory stimuli, such as visual, sound, olfactory, gustatory, tactile or pain stimuli, and devices for measuring the skin potential and the evoked response of the organism to a stimulus. The measured data are processed by processing devices for automatically controlling the supply of at least one stimulus for providing a non-rhythmical sequence of stimuli. Preferably, pairs of stimuli are supplied for developing a conditioned reflex.

**USP # 5,356,368 (October 18, 1994): Method & Apparatus for Inducing Desired States of Consciousness Monroe, Robert E.**

**Abstract:** Improved methods and apparatus for entraining human brain patterns, employing frequency following response (FFR) techniques, facilitate attainment of desired states of consciousness. In one embodiment, a plurality of electroencephalogram (EEG) waveforms, characteristic of a given state of consciousness, are combined to yield an EEG waveform to which subjects may be susceptible more readily. In another embodiment, sleep patterns are reproduced based on observed brain patterns during portions of a sleep cycle; entrainment principles are applied to induce sleep. In yet another embodiment, entrainment principles

are applied in the work environment, to induce and maintain a desired level of consciousness. A portable device also is described.

**USP # 5,352,181 (October 4, 1994): Method & Recording for Producing Sounds and Messages to Achieve Alpha & Theta Brainwave States...**

**Davis, Mark E.**

**Abstract:** A method and recording for use in achieving Alpha and Theta brain wave states and effecting positive emotional states in humans to enhance learning and self-improvement, is provided which includes a medium having a musical composition recorded thereon with an initial tempo decreasing to a final tempo and verbal phrases, comprising between approximately 4 and approximately 8 words, recorded in synchrony with the decreasing initial tempo.

**USP # 5,330,414 (July 19, 1994): Brain Wave Inducing Apparatus**  
**Yasushi, Mitsuo**

**Abstract:** A random signal generator outputs a random noise signal to a band pass filter which selectively passes frequency components in the frequency range of a desired brain wave from a subject. The output of the band pass filter is supplied to an automatic level controller. The automatic level controller sets the output of band pass filter to a predetermined amplitude. Then, the output of the automatic level controller is fed to a stimulating light generator, which converts the output of the automatic level controller into a light signal for stimulating the subject in order to induce the desired brain wave from the subject. The light signal is then emitted into the subject's eyes.

**USP # 5,289,438 (February 22, 1994): Method & System for Altering Consciousness**

**Gall, James**

**Abstract:** A system for altering the states of human consciousness involves the simultaneous application of multiple stimuli, preferable sounds, having differing frequencies and wave forms. The relationship between the frequencies of the several stimuli is exhibited by the equation  $g = 2^{\sup n/4} \cdot f$  where:  $f$ =frequency of one stimulus;  $g$ =frequency of the other stimuli or stimulus; and  $n$ =a positive or negative integer which is different for each other stimulus.

**USP # 5,270,800 (December 14, 1993): Subliminal Message Generator**  
**Sweet. Robert L.**

**Abstract:** A combined subliminal and supraliminal message generator for use with a television receiver permits complete control of subliminal messages and their manner of presentation. A video synchronization detector enables a video display generator to generate a video message signal corresponding to a received alphanumeric text message in synchronism with a received television signal. A video mixer selects either the received video signal or the video message signal for output. The

messages produced by the video message generator are user selectable via a keyboard input. A message memory stores a plurality of alphanumeric text messages specified by user commands for use as subliminal messages. This message memory preferably includes a read only memory storing predetermined sets of alphanumeric text messages directed to differing topics. The sets of predetermined alphanumeric text messages preferably include several positive affirmations directed to the left brain and an equal number of positive affirmations directed to the right brain that are alternately presented subliminally. The left brain messages are presented in a linear text mode, while the right brain messages are presented in a three dimensional perspective mode. The user can control the length and spacing of the subliminal presentations to accommodate differing conscious thresholds. Alternative embodiments include a combined cable television converter and subliminal message generator, a combine television receiver and subliminal message generator and a computer capable of presenting subliminal messages.

**USP # 5,221,962 (June 22, 1993): Subliminal Device having Manual Adjustment of Perception Level of Subliminal Messages**  
**Backus, Alan L., *et al.***

**Abstract:** A method and apparatus for presenting subliminal visual and/or audio messages which allows user verification of message content and presence, as well as proper adjustment of message obviousness while accounting for ambient conditions and user sensitivities is disclosed. This method and apparatus also presents synchronized reinforced sensory input of subliminal messages. This is performed by simultaneously overlaying images received from a VCR over a plurality of television signals. This apparatus directs overlay images over RF television signals having both audio and video components

**USP # 5,213,562 (May 25, 1993): Method of Inducing Mental, Emotional and Physical States of Consciousness...**  
**Monroe, Robert A.**

**Abstract:** A method having applicability in replication of desired consciousness states; in the training of an individual to replicate such a state of consciousness without further audio stimulation; and in the transferring of such states from one human being to another through the imposition of one individual's EEG, superimposed on desired stereo signals, on another individual, by inducement of a binaural beat phenomenon.

**USP # 5,159,703 (October 27, 1992): Silent Subliminal Presentation System**  
**Oliver Lowery**

**Abstract:** A silent communications system in which nonaural carriers, in the very low or very high audio frequency range or in the adjacent ultrasonic frequency spectrum, are amplitude or frequency modulated with the desired intelligence and propagated acoustically or vibrationally, for

inducement into the brain, typically through the use of loudspeakers, earphones or piezoelectric transducers.

**USP # 5,151,080 (September 29, 1992): Method & Apparatus for Inducing & Establishing a Changed State of Consciousness**

**Bick, Claus**

**Abstract:** An electroacoustic device includes a sound generator as well as a system for producing synthetic human speech, connected to a modulation stage for superimposing the output signals thereof. The superimposed output signals are applied via an amplifier stage to one of a headphone system or loudspeaker system.

**USP # 5,135,468 (August 4, 1992): Method & Apparatus of Varying the Brain State of a Person by Means of an Audio Signal**

**Meissner, Juergen P.**

**Abstract:** A method of varying the brain state of a person includes the steps of supplying the first audio signal to one ear of the person, supplying a second audio signal to the other ear of the person, and substantially continuously varying the frequency of at least one of the first and second audio signals to vary the brain state of the person.

**USP # 5,134,484 (July 28, 1992): Superimposing Method & Apparatus Useful for Subliminal Messages**

**Willson, Joseph**

**Abstract:** Data to be displayed is combined with a composite video signal. The data is stored in a memory in digital form. Each byte of the data is read out in sequential fashion to determine: the recurrence display rate of the data according to the frame sync pulses of the video signal; the location of the data within the video image according to the line sync pulses of the video signal; and the location of the data display within the video image according to the position information. Synchronization of the data with the video image is derived from the sync pulses of the composite video signal. A similar technique is employed to combine sound data with an audio signal. Data to be displayed may be presented as a subliminal message or may persist for a given time interval. The data may be derived from a variety of sources including a prerecorded or live video signal. The message may be a reminder message displayed upon a television screen to remind the viewer of an appointment. The data may be stored in a variety of different memory devices capable of high speed data retrieval. The data may be generated locally on-line or off-line and transferred to memory which stores the data necessary to create the message.

**USP # 5,123,899 (June 23, 1992): Method & System for Altering Consciousness**

**Gall, James**

**Abstract:** A system for altering the states of human consciousness involves the simultaneous application of multiple stimuli, preferable sounds, having differing frequencies and wave forms. The relationship



between the frequencies of the several stimuli is exhibited by the equation  $g = s \cdot \frac{n}{4} \cdot f$  where:  $f$ =frequency of one stimulus;  $g$ =frequency of the other stimuli of stimulus; and  $n$ =a positive or negative integer which is different for each other stimulus.

**USP # 5,036,858 (August 6, 1991): Method & Apparatus for Changing Brain Wave Frequency**

**Carter, John L., *et al.***

**Abstract:** A method for changing brain wave frequency to a desired frequency determines a current brain wave frequency of a user, generates two frequencies with a frequency difference of a magnitude between that of the current actual brain wave frequency and the desired frequency but always within a predetermined range of the current actual brain wave frequency, and produces an output to the user corresponding to the two frequencies. One apparatus to accomplish the method has a computer processor, a computer memory, EEG electrodes along with an amplifier, a programmable timing generator responsive to the computer processor for generating the two frequencies, audio amplifiers and a beat frequency generator driving a visual frequency amplifier.

**USP # 4,889,526 (December 26, 1989): Non-Invasive Method & Apparatus for Modulating Brain Signals...**

**Rauscher, Elizabeth A.**

**Abstract:** This invention incorporates the discovery of new principles which utilize magnetic and electric fields generated by time varying square wave currents of precise repetition, width, shape and magnitude to move through coils and cutaneously applied conductive electrodes in order to stimulate the nervous system and reduce pain in humans. Timer means, adjustment means, and means to deliver current to the coils and conductive electrodes are described, as well as a theoretical model of the process. The invention incorporates the concept of two cyclic expanding and collapsing magnetic fields which generate precise wave forms in conjunction with each other to create a beat frequency which in turn causes the ion flow in the nervous system of the human body to be efficiently moved along the nerve path where the locus of the pain exists to thereby reduce the pain. The wave forms are created either in one or more coils, one or more pairs of electrodes, or a combination of the two.

**USP # 4,883,067 (November 28, 1989): Method & Apparatus for Translating the EEG into Music...**

**Knispel, Joel, *et al.***

**Abstract:** A method and apparatus for applying a musical feedback signal to the human brain, or any other brain, to induce controllable psychological and physiological responses. A signal representing the ongoing electroencephalographic (EEG) signal of a brain preferably is obtained from the electrode location on the scalp known as CZ or P3 in clinical notation. A signal processor converts the ongoing EEG into electrical signals which are converted into music by synthesizers. The

music is acoustically fed back to the brain after a time delay calculated to shift the phase of the feedback in order to reinforce specific or desired ongoing EEG activity from the scalp position of interest. The music is comprised of at least one voice that follows the moment-by-moment contour of the EEG in real time to reinforce the desired EEG activity. The music drives the brain into resonance with the music to provide a closed loop or physiological feedback effect. Preferably, the musical feedback comprises additional voices that embody psychoacoustic principles as well as provide the content and direction normally supplied by the therapist in conventional biofeedback. The invention contemplates numerous applications for the results obtained.

**USP # 4,877,027 (October 31, 1989): Hearing System  
Brunkan, Wayne B.**

**Abstract:** Sound is induced in the head of a person by radiating the head with microwaves in the range of 100 megahertz to 10,000 megahertz that are modulated with a particular waveform. The waveform consists of frequency modulated bursts. each burst is made up of 10 to 20 uniformly spaced pulses grouped tightly together. the burst width is between 500 nanoseconds and 100 microseconds. The pulse width is in the range of 10 nanoseconds to 1 microsecond. The bursts are frequency modulated by the audio input to create the sensation of hearing in the person whose head is irradiated.

**USP # 4,858,612 (August 22, 1989): Hearing Device  
Stocklin, Philip L.**

**Abstract:** A method and apparatus for stimulation of hearing in mammals by introduction of a plurality of microwaves into the region of the auditory cortex is shown and described. A microphone is used to transform sound signals into electrical signals which are in turn analyzed and processed to provide controls for generating a plurality of microwave signals at different frequencies. the multifrequency microwaves are then applied to the brain in the region of the auditory cortex. By this method sounds are perceived by the mammal which are representative of the original sound received by the microphone.

**USP # 4,834,701 (May 30, 1989): Apparatus for Inducing Frequency Reduction in Brain Wave  
Masaki, Kazumi**

**Abstract:** Frequency reduction in human brain wave is inducible by allowing human brain to perceive 4-16 hertz beat sound. Such beat sound can be easily produced with an apparatus, comprising at least one sound source generating a set of low-frequency signals different each other in frequency by 4-16 hertz. Electroencephalographic study revealed that the beat sound is effective to reduce beta-rhythm into alpha-rhythm, as well as to retain alpha-rhythm.

**USP # 4,821,326 (April 11, 1989): Non-Audible Speech Generation Method & Apparatus****MacLeod, Norman**

**Abstract:** A non-audible speech generation apparatus and method for producing non-audible speech signals which includes an ultrasonic transducer or vibrator for projecting a series of glottal shaped ultrasonic pulses to the vocal tract of a speaker. The glottal pulses, in the approximate frequency spectrum extending from 15 kilohertz to 105 kilohertz, contains harmonics of approximately 30 times the frequency of the acoustical harmonics generated by the vocal cords, but which may nevertheless be amplitude modulated to produce non-audible speech by the speaker's silently mouthing of words. The ultrasonic speech is then received by an ultrasonic transducer disposed outside of the speaker's mouth and electronically communicated to a translation device which down converts the ultrasonic signals to corresponding signals in the audible frequency range and synthesizes the signals into artificial speech.

**USP # 4,777,529 (October 11, 1988): Auditory Subliminal Programming System****Schultz, Richard M., et al.**

**Abstract:** An auditory subliminal programming system includes a subliminal message encoder that generates fixed frequency security tones and combines them with a subliminal message signal to produce an encoded subliminal message signal which is recorded on audio tape or the like. A corresponding subliminal decoder/mixer is connected as part of a user's conventional stereo system and receives as inputs an audio program selected by the user and the encoded subliminal message. The decoder/mixer filters the security tones, if present, from the subliminal message and combines the message signals with selected low frequency signals associated with enhanced relaxation and concentration to produce a composite auditory subliminal signal. The decoder/mixer combines the composite subliminal signal with the selected audio program signals to form composite signals only if it detects the presence of the security tones in the subliminal message signal. The decoder/mixer outputs the composite signal to the audio inputs of a conventional audio amplifier where it is amplified and broadcast by conventional audio speakers.

**USP # 4,734,037 (March 29, 1988): Message Screen****McClure, J. Patrick**

**Abstract:** A transparent sheet is disclosed having a message thereon. The sheet has a first side adapted to be attached facing a plate which is normally viewed by a viewer and a second side facing the viewer. The message is arranged to be readably intelligible from the second side but is not liminally visible to the viewer when viewed from a normal viewing distance from the second side under normal viewing conditions. The message has a subliminal effect upon the viewer when viewed from the normal viewing distance from the second side under normal viewing

conditions. A viewer can electively subject him or herself to subliminal messages while viewing television at leisure.

**USP # 4,717,343 (January 5, 1988): Method of Changing a Person's Behavior**

**Densky, Alan B.**

**Abstract:** A method of conditioning a person's unconscious mind in order to effect a desired change in the person's behavior which does not require the services of a trained therapist. Instead the person to be treated views a program of video pictures appearing on a screen. The program as viewed by the person's unconscious mind acts to condition the person's thought patterns in a manner which alters that person's behavior in a positive way.

**USP # 4,699,153 (October 13, 1987): System for Assessing Verbal Psychobiological Correlates**

**Shevrin, Howard, *et al.***

**Abstract:** A system for assessing psychobiological conditions of a subject utilizes a plurality of words which are selected to be in four categories as critical stimuli. The words are presented by a tachistoscope to the subject in subliminal and supraliminal modes of operation. Subliminal stimulation of the subject is achieved by presenting the selected words for an exposure period of approximately one millisecond. The supraliminal exposure time is approximately thirty milliseconds. Prior to stimulation, the subject is diagnosed in accordance with conventional psychoanalytical techniques to establish the presence and nature of a pathological condition. The words are selected and categorized in four groups: pleasant words, unpleasant words, words related to a diagnosed conscious pathological condition, and words related to a diagnosed unconscious pathological condition. The brain wave responses which are evoked by the stimulation are collected via electrodes and analyzed in accordance with a transinformation technique which is based on information signal theory for establishing a probabilistic value which corresponds to the information content of the evoked responses.

**USP # 4,692,118 (September 8, 1987): Video Subconscious Display Attachment**

**Mould, Richard E.**

**Abstract:** An apparatus and method for introducing messages to the subconscious mind is disclosed, which includes a panel positioned adjacent a television screen, with the panel having non-distractive messages imprinted thereon, such that as the subject consciously focuses his attention on the video screen, his subconscious mind records the message from the panel that is within his peripheral vision.

**USP # 4,616,261 (October 7, 1986): Method & Apparatus for Generating Subliminal Visual Messages**

**Crawford, James R., *et al.***

**Abstract:** A system for generating a subliminal message during the

display of a normal television program on a television receiver utilizes a personal computer to generate an RF carrier modulated with video signals encoding the subliminal message. The computer runs under the control of an application program which stores the subliminal message and also controls the computer to cause it to generate timing signals that are provided to a single pole double-throw switch. The source of the normal television program and the video output of the computer are connected to the two switch inputs and the switch output is connected to the television receiver antenna system. The timing signals cause the switch to normally display the conventional television program and to periodically switch to the computer output to generate the subliminal message. The video output of the computer includes horizontal and vertical synchronizing signals which are of substantially the same frequency as the synchronizing signals incorporated within the normal program source but of an arbitrary phase.

**USP # 4,573,449 (March 4, 1986): Method for Stimulating the Falling Asleep and/or Relaxing Behavior of a Person**

**Warnke, Egon F.**

**Abstract:** A method and apparatus is provided with which a person suffering from sleeplessness can be more easily relaxed and may more rapidly fall asleep. In particular, sound pulses are emitted by an electro-acoustic transducer, according to the cadence of which, the person seeking to fall asleep is induced to breathe in and out over a predetermined period of time. By suitably selecting the pulse sequence frequency, the pitch and the amplitude of the sound pulses may be adjusted thereby enhancing the process of falling asleep.

**USP # 4,395,600 (July 26, 1983): Auditory Subliminal Message System & Method**

**Lundy, Rene R., et al.**

**Abstract:** Ambient audio signals from the customer shopping area within a store are sensed and fed to a signal processing circuit that produces a control signal which varies with variations in the amplitude of the sensed audio signals. A control circuit adjusts the amplitude of an auditory subliminal anti-shoplifting message to increase with increasing amplitudes of sensed audio signals and decrease with decreasing amplitudes of sensed audio signals. This amplitude controlled subliminal message may be mixed with background music and transmitted to the shopping area. To reduce distortion of the subliminal message, its amplitude is controlled to increase at a first rate slower than the rate of increase of the amplitude of ambient audio signals from the area. Also, the amplitude of the subliminal message is controlled to decrease at a second rate faster than the first rate with decreasing ambient audio signal amplitudes to minimize the possibility of the subliminal message becoming supraliminal upon rapid declines in ambient audio signal amplitudes in the area. A masking signal is provided with an amplitude which is also controlled in response to the amplitude of sensed ambient audio signals. This masking signal may be

combined with the auditory subliminal message to provide a composite signal fed to, and controlled by, the control circuit.

**USP # 4,388,918 (June 21, 1983): Mental Harmonization Process  
Filley, Charles C.**

**Abstract:** A state of relaxation or mental harmonization in a subject is created by exposing a color solely to one field of vision of a subject and the complement of that color solely to the other field of vision of the subject while simultaneously exposing an audible tone solely to one ear of the subject and a harmonious tone solely to the other ear of the subject. The color and tones employed are subjectively comfortable and compatible. Preferably, the frequency difference between the two audible tones is one-half the frequency of the audible tone having the lowest frequency.

**USP # 4,354,505 (October 19, 1982): Method of and Apparatus for Testing and Indicating Relaxation State of a Human Subject  
Shiga, Kazumasa**

**Abstract:** In a self-training biofeedback system, a physiological signal representing the state of relaxation of a person using the system is applied to a time counter to generate a binary count output representing the relaxation period. A visual indicator connected to the time counter provides the self trained person with a quick display of the measured time period so he can gauge the depth of his relaxation.

**USP # 4,335,710 (June 22, 1982): Device for the Induction of Specific Brain Wave Patterns  
Williamson, John**

**Abstract:** Brain wave patterns associated with relaxed and meditative states in a subject are gradually induced without deleterious chemical or neurological side effects. A white noise generator (11) has the spectral noise density of its output signal modulated in a manner similar to the brain wave patterns by a switching transistor (18) within a spectrum modulator (13) and converted to an audio signal by acoustic transducer (14). Ramp generator (16) gradually increases the voltage received by and resultant output frequency of voltage controlled oscillator (17) whereby switching transistor (18) periodically shunts the high frequency components of the white noise signal to ground.

**USP # 4,315,501 (February 16, 1982): Learning-Relaxation Device  
Gorges, Denis E.**

**Abstract:** Disclosed is a device for relaxing, stimulating and/or driving brain wave form function in a human subject. The device comprises, in combination, an eye mask having independently controlled left and right eyepieces and a peripheral light array in each eyepiece, an audio headset having independently controlled left and right earpieces and a control panel which controls light and sound signals to the light arrays and earpieces, respectively. Various control functions allow simultaneous or

alternating light and sound pulsations in the left and right light arrays and earpieces, as well as selective phasing between light and sound pulsations.

**USP # 4,227,516 (October 14, 1980): Apparatus for Electrophysiological Stimulation**

**Meland, Bruce C., *et al.***

**Abstract:** Apparatus for the electrophysiological stimulation of a patient is provided for creating an analgesic condition in the patient to induce sleep, treat psychosomatic disorders, and to aid in the induction of electrohypnosis and altered states of consciousness. The foregoing is achieved by repetitive stimuli in the patient for whom external influences, namely those of sight and sound, are intentionally excluded. The apparatus produces electrical stimulation of the patient in the form of a modulated wave which produces impulses in the delta, theta, alpha and beta regions of the brain's electrical activity, the electrical stimulation being accompanied by two sources of audio stimulation, one of which is a sinusoidal tone modulated by and synchronized with the electrical stimulation, and the other is derived from sound recordings.

**USP # 4,191,175 (March 4, 1980): Method & Apparatus for Repetitively Producing a Noise-like Audible Signal**

**Nagle, William L.**

**Abstract:** A digital pulse generator and shift register repetitively produce bursts of digital pulses at a first adjustable repetition frequency. The repetition frequency of the pulses in each burst is also adjustable. A pink noise filter accentuates the lower burst frequency components near 7 hz and substantially attenuates all frequency components of the bursts above a first cut-off point near 10 KHz. A tunable band pass amplifier having a center frequency adjustable over a preselected range of frequencies optimally detectable by the average human ear accentuates the pink noise filter output near 2.6 KHz. The tunable amplifier drives an audible signal source with noise-like pulses of varying amplitudes and frequency components. A low pass amplifier may be connected to the pink noise filter to generate a train of pulses having a repetition frequency near 7 hz which pulses a light source in synchronism with the audible noise-like signal.

**USP # 4,141,344 (February 27, 1979): Sound Recording System**

**Barbara, Louis J.**

**Abstract:** In recording an audio program, such as music or voice, on a magnetic tape recorder an A.C. signal generator operating at a frequency below about 14 Hz provides an AC baseline for the audio program signal. This 14 Hz or lower AC signal is sensed by the listener's ear to create an Alpha or Theta state in his brain when the tape is played back.

**USP # 4,082,918 (April 4, 1978): Audio Analgesic Unit**

**Chang, Roland W., *et al.***

**Abstract:** An audio analgesic unit for use in masking sounds and

substituting another sound which includes earmuffs to be used by a dental patient in which speakers are arranged and connected to a patient operated remote control unit to control the sound levels and a master control unit to override the patient remote control unit and operated by an operator, such as a dentist. A beeper indicates operation mode change.

**USP # 4,034,741 (July 12, 1977): Noise Generator & Transmitter  
Adams, Guy E., *et al.***

**Abstract:** An analgesic noise generator employs a circuit that can be switched to provide a variable waveform from an active noise source out of an integrated circuit amplifier.

**USP # 3,967,616 (July 6, 1976): Multichannel System for &  
Multifactorial Method of Controlling the Nervous System of a Living  
Organism**

**Ross, Sidney A.**

**Abstract:** A novel method for controlling the nervous system of a living organism for therapeutic and research purposes, among other applications, and an electronic system utilized in, and enabling the practice of, the invented method. Bioelectrical signals generated in specific topological areas of the organism's nervous system, typically areas of the brain, are processed by the invented system so as to produce a sensory stimulus if the system detects the presence or absence, as the case may be, of certain characteristics in the waveform patterns of the bioelectrical signals being monitored. The coincidence of the same or different characteristics in two or more waveform patterns, or the non-coincidence thereof, may be correlated with a certain desired condition of the organism's nervous system; likewise, with respect to the coincidence or non-coincidence of different characteristics of a single waveform pattern. In any event, the sensory stimulus provided by the invented system, typically an audio or visual stimulus, or combination thereof, is fed back to the organism which associates its presence with the goal of achieving the desired condition of its nervous system. Responding to the stimulus, the organism can be trained to control the waveform patterns of the monitored bioelectrical signals and thereby, control its own nervous system. The results of the coincidence function permit results heretofore unobtainable.

**USP # 3,951,134 (April 20, 1976): Apparatus & Method for Remotely  
Monitoring & Altering Brain Waves  
Malech, Robert G.**

**Abstract:** Apparatus for and method of sensing brain waves at a position remote from a subject whereby electromagnetic signals of different frequencies are simultaneously transmitted to the brain of the subject in which the signals interfere with one another to yield a waveform which is modulated by the subject's brain waves. The interference waveform which is representative of the brain wave activity is re-transmitted by the brain to a receiver where it is demodulated and amplified. The demodulated waveform is then displayed for visual viewing and routed to a computer



for further processing and analysis. The demodulated waveform also can be used to produce a compensating signal which is transmitted back to the brain to effect a desired change in electrical activity therein.

**USP # 3,884,218 (May 20, 1975): Method of Inducing & Maintaining Various Stages of Sleep in the Human Being**

**Monroe, Robert A.**

**Abstract:** A method of inducing sleep in a human being wherein an audio signal is generated comprising a familiar pleasing repetitive sound modulated by an EEG sleep pattern. The volume of the audio signal is adjusted to overcome the ambient noise and a subject can select a familiar repetitive sound most pleasing to himself.

**USP # 3,837,331 (September 24, 1974): System & Method for Controlling the Nervous System of a Living Organism**

**Ross, S.**

**Abstract:** A novel method for controlling the nervous system of a living organism for therapeutic and research purposes, among other applications, and an electronic system utilized in, and enabling the practice of the invented method. Bioelectrical signals generated in specific topological areas of the organism's nervous system, typically areas of the brain, are processed by the invented system so as to produce an output signal which is in some way an analog of selected characteristics detected in the bioelectrical signal. The output of the system, typically an audio or visual signal, is fed back to the organism as a stimulus. Responding to the stimulus, the organism can be trained to control the waveform pattern of the bioelectrical signal generated in its own nervous system.

**USP # 3,835,833 (September 17, 1974): Method for Obtaining Neurophysiological Effects**

**Limoge, A.**

**Abstract:** A method and apparatus for obtaining neurophysiological effects on the central and/or peripheral systems of a patient. Electrodes are suitably positioned on the body of the patient and a composite electric signal is applied at the electrodes. The composite signal is formed by the superpositioning of two signals: a first signal which is a rectified high-frequency carrier modulated in amplitude to about 100 percent by substantially square-shaped pulses whose duration, amplitude and frequency are chosen according to the neurophysiological effects desired, and a second signal which has a relatively white noise spectrum. The mean value of the first electric signal has a predetermined sign which is opposite the sign of the mean value of the second electric signal.

**USP # 3,773,049 (November 20, 1973): Apparatus for Treatment of Neuropsychic & Somatic Diseases with Heat, Light, Sound & VHF Electromagnetic Radiation**

**L. Y. Rabichev, et al.**

**Abstract: N/A**

**USP # 3,766,331 (October 16, 1973): Hearing Aid for Producing Sensations in the Brain**

**Zink, Henry R.**

**Abstract:** A pulsed oscillator or transmitter supplies energy to a pair of insulated electrodes mounted on a person's neck. The transmitter produces pulses of intensity greater than a predetermined threshold value and of a width and rate so as to produce the sensation of hearing without use of the auditory canal, thereby producing a hearing system enabling otherwise deaf people to hear.

**USP # 3,727,616 (March 17, 1973): Electronic System for Stimulation of Biological Systems**

**Lenskes, H.**

**Abstract:** A receiver totally implanted within a living body is inductively coupled by two associated receiving coils to a physically unattached external transmitter which transmits two signals of different frequencies to the receiver via two associated transmitting coils. One of the signals from the transmitter provides the implanted receiver with precise control or stimulating signals which are demodulated and processed in a signal processor network in the receiver and then used by the body for stimulation of a nerve, for example, while the other signal provides the receiver with a continuous wave power signal which is rectified in the receiver to provide a source of electrical operating power for the receiver circuitry without need for an implanted battery.

**USP # 3,712,292 (January 23, 1973): Method & Apparatus for Producing Swept FM Audio Signal Patterns for Inducing Sleep**

**Zentmeyer, J.**

**Abstract:** A method of producing sound signals for inducing sleep in a human being, and apparatus therefor together with REPRESENTATIONS thereof in recorded form, wherein an audio signal is generated representing a familiar, pleasing, repetitive sound, modulated by continuously sweeping frequencies in two selected frequency ranges having the dominant frequencies which occur in electrical wave patterns of the human brain during certain states of sleep. The volume of the audio signal is adjusted to mask the ambient noise and the subject can

select any of several familiar, repetitive sounds most pleasing to him.

**USP # 3,647,970 (March 7, 1972): Method and System for Simplifying Speech Waveforms**

**Flanagan, G. Patrick**

**Abstract:** A complex speech waveform is simplified so that it can be transmitted directly through earth or water as a waveform and understood directly or after amplification.

**USP # 3,629,521 (January 8, 1970): Hearing Systems**  
**Puharich, Henry K.**

**Abstract:** The present invention relates to the stimulation of the sensation of hearing in persons of impaired hearing abilities or in certain cases persons totally deaf utilizing RF energy. More particularly, the present invention relates to a method and apparatus for imparting synchronous AF or ""acoustic" signals and so-called "transdermal" or RF signals. Hearing and improved speech discrimination, in accordance with one aspect of the present invention, is stimulated by the application of an AF acoustical signal to the "ear system" conventional biomechanism of hearing, which is delivered to the brain through the "normal" channels of hearing and a separate transdermal RF electrical signal which is applied to the "facial nerve system" and is detectable as a sensation of hearing. Vastly improved and enhanced hearing may be achieved...

**USP # 3,576,185 (April 27, 1971): Sleep-Inducing Method & Arrangement using Modulated Sound & Light**

**Meseck, Oscar & Schulz, Hans R.**

**Abstract:** N/A

**USP # 3,568,347 (February 23, 1971): Psycho-Acoustic Projector**

**Flanders, Andrew**

**Abstract:** A system for producing aural psychological disturbances and partial deafness in the enemy during combat situations.

**USP # 3,393,279 (July 16, 1968): Nervous System Excitation Device**

**Flanagan, Giles P.**

**Abstract:** A method of transmitting audio information via a radio frequency signal modulated with the audio info through electrodes placed on the subject's skin, causing the sensation of hearing the audio information in the brain.

**USP # 3,170,993 (February 23, 1965): Means for Aiding  
Hearing by Electrical Stimulation of the Facial Nerve  
System**

**Puharich, Henry & Lawrence, Joseph**

**Abstract: N/A**

**USP # 3,156,787 (November 10, 1964): Solid State  
Hearing System**

**Lawrence, Joseph & Puharich, Henry**

**Abstract: N/A**

**USP # 2,995,633 (August 8, 1961): Means for Aiding  
Hearing**

**Puharich, Henry & Lawrence, J.**

**Abstract:** Means for converting audible signals to  
electrical signals and conveying them to viable nerves of  
the facial system.

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